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## **INL's Hazmat Camera wins coveted R&D 100 Award**

For the ninth consecutive year, the U.S. Department of Energy's Idaho National Laboratory has received a prestigious R&D 100 award. This year's winning technology was the laboratory's Hazmat Camera System, developed by engineer Kevin Young to provide emergency first responders with instant, wireless video footage during emergency incidents.

The Hazmat Cam is a lightweight, wireless video camera system that emergency team members carry to an incident scene. Housed in a tough, waterproof flashlight body, the camera system sends back real-time images to video or computer monitors at command centers, which can be stationed up to five miles from the incident area.

"What makes this system unique is that it combines a triple antenna and true-diversity receiver with a low-frequency transmitter, video encryption and waterproof housing," said Young. "These features allow the system to deliver a clear, secure picture, and it's submersible for decontamination purposes."

Young began working on the Hazmat Camera system in 1999 after learning that several Army and National Guard units that trained to respond to hazardous incidents needed a better way to provide detailed communication to technical experts. Prior to the Hazmat Cam, most first responders relied on traditional two-way radios and camcorders that often had poor reception and were too bulky to handle while wearing protective hazmat suits.

The Hazmat Camera was designed to be both flexible and adaptable for first responder applications. Currently, more than a dozen National Guard Civil Support Teams, law enforcement agencies and fire departments across the country are using the Hazmat Camera to increase safety and response options to potential threats from chemical, radiological or biological incidents, as well as for search and rescue purposes. The system is also being used to support Operation Iraqi Freedom.

"Developing the Hazmat Cam and receiving an R&D 100 award was really a team effort," said Young. "It has taken a lot of hard work and people to go from concept to prototype and then onto a working product, but this award is icing on the cake."

The Hazmat Cam joins the ranks of previous INL R&D 100 award winners such as the Change Detection System and Super Hard Steel. The R&D 100 awards are given out annually by R&D Magazine for the top 100 new technologies in the world.

The Hazmat Cam was licensed for production by View Systems, Inc. in 2004. It is marketed as the Visual First Responder.

Idaho National Laboratory is one of the Department of Energy's 10 multiprogram national laboratories. The laboratory performs work in each of the strategic goal areas of DOE – energy, national security and science. More specifically, INL is the nation's leading center of nuclear energy research and development. Day-to-day management and operation of the laboratory is the responsibility of Battelle Energy Alliance.

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